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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,337	04/02/2001	Masatoshi Ohtsubo	35.C15275	1721

5514 7590 06/14/2004

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EXAMINER

PAYNE, DAVID C

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 06/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/822,337

Applicant(s)

OHTSUBO, MASATOSHI

Examiner

David C. Payne

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

2. Regarding applicant's traverse of the drawing objections as cited in the previous office action. The applicant must comply with the official rules and regulations of the U.S. Patent and Trademark Office; failure to do so may result in abandonment of the application. The following are direct quotations of 37 CFR 1.84(n), (o), repeated below:

(n) *Symbols.* Graphical drawing symbols may be used for conventional elements when appropriate. The elements for which such symbols and labeled representations are used must be adequately identified in the specification. Known devices should be illustrated by symbols which have a universally recognized conventional meaning and are generally accepted in the art. **Other symbols which are not universally recognized may be used, subject to approval by the Office, if they are not likely to be confused with existing conventional symbols, and if they are readily identifiable.**

(o) *Legends.* **Suitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawing.** They should contain as few words as possible.

3. The drawings are objected to because drawings contain blank boxes and other shapes, which are not widely recognized engineering symbols. Applicant must supply a suitable legend. A proposed drawing correction or corrected drawings are required in reply to the Office action

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to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orino US 5,627,669 (Orino) in view of Tatsuno et al. US 2002/0051270 A1 (Tatsuno).

Regarding claim 1, Orino disclosed (Figure 11)

An optical space transmitter comprising: a light source for emitting a light beam modulated according to a signal to be transmitted (1); an optical system for sending out the light beam emitted from said light source as transmission light beam with an angle of expansion (e.g., col./line: 5/52-65); Orino does not disclose a temperature detector for detecting the internal temperature of the device; and a control means for changing the angle of expansion of said transmission light beam as a function of the temperature detected by said temperature detector.

However Orino does disclose that temperature affects the position of the light beam and requires adjustment throughout the operation of the apparatus (e.g., col./line: 1/22-30).

Tatsuno disclosed (p. 14, paragraph 0214) the ability to change the angle of divergent light of

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an incident light beam. It would have been obvious to one of ordinary skill in the art at the time of invention to use a divergent angle adjustment means in the Orino transceiver apparatus for the benefit of stabilizing position changes in the transmitter and receiver throughout the environmental temperature range.

Regarding claim 2, Orino does not disclose

wherein said control means includes an computing circuit for determining by computation an appropriate angle of expansion of the light beam to be transmitted on the basis of the temperature detected by said temperature detector and a drive means for driving at least part of said optical system in the direction of the optical axis according to the outcome of the computation of the computing circuit. However, Orino disclosed a signal processor (11) that it is functional to control the position of the mirror (4). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Tatsuno divergent angle change means as an input to the processor in a closed loop feedback manner for the benefit of automatically adjusting the pneumatic device by utilizing thermal information as well as existing signal information.

Regarding claim 3, Orino disclosed a light receiving means (6) for converting the reception signal transmitted from another device and taken into the own device so as to make the optical axis thereof agree with the optical axis of the light beam to be transmitted into an electric signal.

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Regarding claim 4, Orino disclosed an angle correcting means (12) for correcting the angular displacement between the light beam to be transmitted and the received light beam.

Regarding claim 5, Orino disclosed wherein said angle correcting means has a tracking mirror (4) arranged on the optical path of the light beam to be transmitted and the received light beam and an actuator for changing the angle of the tracking mirror (12).

Regarding claim 7, the modified combination of Orino and Tatsuno does not teach that the angle of expansion decreases when the internal temperature detected by said temperate detector falls. However, it is well known in that art that lasers produce more power after heating up and conversely give off less power when cooled down. In conjunction with these power changes, the angle of expansion is proportional to the power. That is, as temperature increases, power increases lead to a natural increase in the angle of expansion. Likewise a fall in temperature leads to a decrease in the angle of expansion.

Allowable Subject Matter

6. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Dcp


JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600